

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
7 August 2003 (07.08.2003)

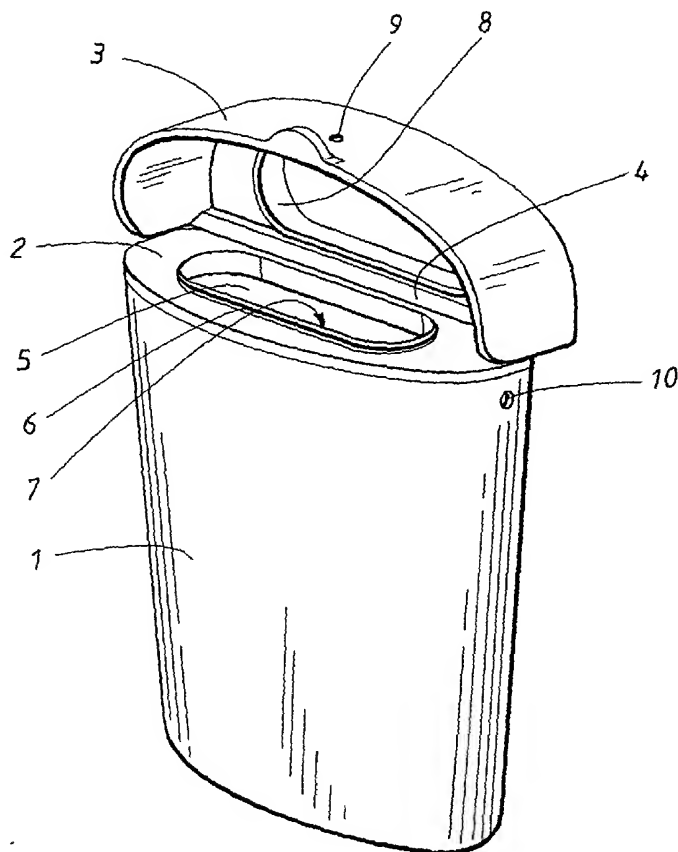
PCT

(10) International Publication Number  
**WO 03/064275 A1**

- (51) International Patent Classification<sup>7</sup>: **B65D 43/16**
- (21) International Application Number: PCT/SE03/00003
- (22) International Filing Date: 7 January 2003 (07.01.2003)
- (25) Filing Language: Swedish
- (26) Publication Language: English
- (30) Priority Data:  
0200255-8 30 January 2002 (30.01.2002) SE
- (71) Applicant (for all designated States except US): **RAM-LÖSA TEKNISKA AB** [SE/SE]; Lundsgården, S-260 38 Kattarp (SE).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **RANDEHED, Olle** [SE/SE]; Lundsgården, S-260 38 Kattarp (SE).
- (74) Agents: **ANDERSSON, Per** et al.; Albihtns Göteborg AB, P.O. Box 142, S-401 22 Göteborg (SE).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: BOX FOR STORAGE OF TABLETS OR THE LIKE



(57) Abstract: The present invention concerns a box for storage of tablets and the like. The box is characterised in that it comprises a lower container part (1) with an upper open end and a closure part (2), inserted in the open end, with an opening (5) for emptying out the contents of the container part (1) and which is characterised by a dome-shaped pivotably jointed lid (3) on the closure part (2).



WO 03/064275 A1



**Published:**

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

TITLE: Box for storage of tablets or the like.

## FIELD OF THE INVENTION

- 5 The present invention concerns a box for packaging and storage of tablets and the like, such as throat lozenges or powder. The tablet box is intended to be used in a pocket, bag or in some other suitable place on a carrier who requires the contents. The box has therefore been given an outer design suitable for this purpose and a size that is adapted to this requirement.

10

## BACKGROUND OF THE INVENTION

- Tablets which people carry with them are often packed in sealed bags which have a tear indication for one of the edges, at which the bag can be opened by tearing, giving the person access to the contents. Resealing of such a bag  
15 is then difficult to achieve. Instead, the contents must be of such a nature that they stand exposure to air and they must also be in the form of tablets so large that they do not easily fall out of the opening which has been loosely folded shut.

- 20 Tablets are also distributed in the form of boxes with front and rear sides, two edge sides, an underside and a lid, which usually originates from the rear side and which can be folded over the opening and closed by inserting a flap into some part of the box. Such boxes are commonly used for various sorts of throat lozenges and are well known. They can also be used for various  
25 sorts of powder, which then must be enclosed in a plastic bag that can hold the entire contents or in the form of individual sachets. Such tablet boxes are usually made of cardboard which has been punched out and folded to the desired form and possibly glued in order to maintain the desired structure. Examples of such tablet boxes are described in the US patents 4 199 063  
30 and 5 190 200. A further type of such a box is shown in the publication WO 01/08986.

## TECHNICAL PROBLEM

The above-mentioned examples of well-known tablet boxes and even other such boxes can in themselves work well if the contents are of a suitable and durable sort. Due to the choice of material and method of construction, however, they are not particularly robust and must be handled with a certain amount of care. Most tablet boxes do not provide any possibility of dispensing the contents, instead one is obliged to shake out a suitable number of tablets, a suitable amount of powder, or the like, which are to be used at one time. There has long been a need for a tablet box which has a very suitable outer design, which is robust and resistant to impact and water and which, furthermore, can provide dosage of the contents and can be closed in a safe and water- and airtight manner.

## SOLUTION

Therefore, in accordance with the present invention, a box made of resistant material, for example mouldable plastic, has been produced, which box is intended for storage of tablets and the like and which comprises a lower container part with an upper open end and a closure part, inserted in the open end, with an opening for emptying the contents of the container part and which is characterised by a dome-shaped pivotably jointed lid on the closure part, wherein the opening is provided with an upwardly-extending flange which is intended to cooperate with a downwardly-extending flange in the interior of the lid so that when the lid is closed the opening is sealed, and in that both flanges are formed in such a way that they form a snap closure when the lid is closed.

In accordance with the invention, it is suitable that the lid and the closure part are made in one piece and that the joint is constituted of a thin strip of the common material for the lid and the closure part.

In accordance with the invention, it is expedient that the inserted closure part is provided with one or several outwardly-directed projections intended to be

inserted in recesses in the lower container part and to lock the closure part to the container part.

5 In accordance with the invention, the inserted closure part can instead be provided with a circumferential bead intended to cooperate with a groove on the inside of the lower container part and to lock the closure part to the lower container part.

10 In accordance with the invention, the lid is provided on its front part with a hole in front of the container part for injecting glue intended to seal the lid to the container part.

15 Furthermore, it is suitable in accordance with the invention that the container part is provided on its rear part with an outwardly-directed projection for attaching a pivotable suspension part for the box.

20 In accordance with the invention, a plate-like locking device can be arranged, which locking device is pivotable around a projection and has a catch on one or both sides of the lid in the vicinity of the attachment part of the lid near the closure part.

## DESCRIPTION OF THE FIGURES

The invention will be described in more detail below with reference to the attached figures, in which

25

Fig. 1 shows in perspective a box in accordance with the invention with an open lid, in which

Fig 2 shows in vertical section the upper part of the tablet box with its lid closed, in which

30

Fig. 3 shows in perspective the tablet box seen from behind with the suspension part mounted

Fig. 4 shows in vertical section a further embodiment of the invention,  
5 and

Fig. 5 shows a side view of the embodiment in accordance with Fig. 4.

#### DETAILED DESCRIPTION

10 Fig. 1 shows in perspective a tablet box in accordance with the present invention with the lid folded up. The box comprises a lower container part 1 and an upper closure part 2 and a lid 3, which is attached to the closure part by means of a thin material strip 4 due to which the lid can be swung up or down to enable the box to be closed. In the closure part 2, which is pushed  
15 down into the container part 1, there is an opening 5 through which the contents of the container part 1 can be shaken out. In the present case, the hole 5 has two parallel sides which are joined by means of two semi-circles and is reminiscent of the shape of an ice-skating rink. The hole 5 is surrounded by a flange 6 which projects somewhat above the plane closure part 2. On the upper side of the flange 6 a rim 7 is formed, which is intended  
20 to constitute one half of a snap connection.

The lid 3 and the closure part 2 are preferably made of plastic and joined by means of the thin material strip 4. This material strip 4 can, if desired, be  
25 replaced by some other hinge-like arrangement. On the underside of the lid there is a flange 8 which has a design corresponding to the flange 6 in the closure part 2 and which is intended, when the lid is shut, to cooperate with the flange 6 and completely seal the opening 5. The flange 8 is provided with a recess to receive the rim 7 in the lower flange so that a snap effect arises.

30

A hole 9 is arranged in the front side of the lid 3. This hole 9 is intended for injection of glue after the box has been filled with its contents and is to be

sealed. The injected glue is intended to solidify and thus constitutes a seal that must be broken when the box is to be emptied.

Two holes 10 are arranged in the upper part of the container part 1, one on either side of the box. These holes 10 are each intended to receive a protruding projection on the closure part 2 that is inserted into the container part 1 and is thus locked to it. The container part 1 can be constituted of any material with sufficient stability but is preferably made of the same material as the closure part 2 and the lid 3.

10

Instead of the holes 10 and the projections on the closure part 2, said closure part can be provided with a circumferential bead intended to cooperate with a groove on the inside of the lower container part 1 and thus lock it to the closure part 2. Therefore this locking arrangement will not be visible from the outside.

15

Fig. 2 shows a vertical section through the box in accordance with Fig. 1 taken in the middle of the box and with the lid 3 closed. The reference numerals in this figure correspond to those in Fig. 1. As can be seen from Fig. 2, the closure part 2 has a downwardly-projecting flange 11, which is intended to be inserted so far down into the container part 1 that the plate-like part of the closure part 2 lies against the upper edge of the container part 1. On this part 11, two projections are made, which projections are intended to be pressed into the holes 10 and lock the closure part 2 to the container part 1. These projections, which are not shown here, must have a certain elasticity so that they can be forced into the holes 10. Fig. 2 also shows a projection 12 on the rear side of the box. This projection 12, which is provided with a flange, is intended to support a suspension arrangement for the box. This suspension arrangement 13 is shown in full in Fig. 3. It can be pivoted around the peg 12 and thus come to lie completely against the rear side of the container part 1 or it can be snapped off when it is no longer required.

20  
25  
30

Fig. 4 shows in a vertical section an embodiment of the invention comprising a safety lock, which means that the lid is also locked at the sides so that the lid must be opened both from the front and by pressing both sides. This safety lock is intended to prevent children from getting hold of the contents of the box, which may be unsuitable for them.

The safety lock consists of a plate 15, which is pivotable around a projection 14, which plate 15 has on its lowest part a catch 16, which catch 16 engages in a recess on the insert part 2. By pressing in the direction of the arrow 17, the catch 16 is released from its engagement with the insert part 2 and the lid 3 can be lifted. It will therefore be necessary to use at least three fingers in order to open the lid, which can be difficult for children.

In this embodiment, a thin, removable lid 18 is arranged, which can be removed with the aid of an ear 19 formed integrally with the lid 18. This lid 18 can of course be arranged in other embodiments of the invention.

Fig. 5 shows the same embodiment as that in Fig. 4.

The material in the storage box is suitably plastic with appropriate elasticity and stability. However, is also possible to make the box in other materials and it can, if desired, be manufactured in different materials with regard to the container part 1, the insert part 2 and the lid 3.

Many tablets or other material must be stored in a dry environment. It is therefore suitable in accordance with the invention to arrange one or more nipples on the underside of the plate-like part of the closure part 2 in which nipples drying agent can be accommodated, which drying agent is in contact with the air inside the box.



The invention is not limited to the embodiment shown above but can be varied in different ways within the scope of the invention.

## CLAIMS

- 5 1. Box for storage of tablets and the like, comprising a lower container part (1) with an upper open end and a closure part (2), inserted in the open end, with an opening (5) for emptying the contents of the container part (1),  
c h a r a c t e r i s e d b y a dome-shaped pivotably jointed lid (3) on the  
closure part (2), wherein the opening (5) is provided with an upwardly-  
10 extending flange (6) which is intended to cooperate with a downwardly-  
extending flange (8) in the interior of the lid so that when the lid (3) is closed  
the opening (5) is sealed, and in that both flanges (6 and 8) are formed in  
such a way that they form a snap closure when the lid is closed.
- 15 2. Box in accordance with Fig. 1, c h a r a c t e r i s e d i n that the lid (3) and the closure part (2) are made in one piece and that the joint is constituted of a thin strip (4) of the common material for the lid (3) and the closure part (2).
- 20 3. Box in accordance with any one of claims 1 or 2, c h a r a c t e r i s e d i n that the inserted closure part (2) is provided with one or several outwardly-directed projections intended to be inserted in recesses (10) in the lower container part (1) and to lock the closure part (2) to the container part.
- 25 4. Box in accordance with any one of claims 1 and 3, c h a r a c t e r i s e d i n that the inserted closure part (2) is provided with a circumferential bead intended to cooperate with a groove on the inside of the lower container part (1) and to lock the closure part (2) to the lower container  
30 part (1).

5. Box in accordance with any one of claims 1-4, characterised in that the lid (3) is provided on its front part with a hole (9) in front of the container part (1) for injecting glue intended to seal the lid (3) to the container part (1).

5

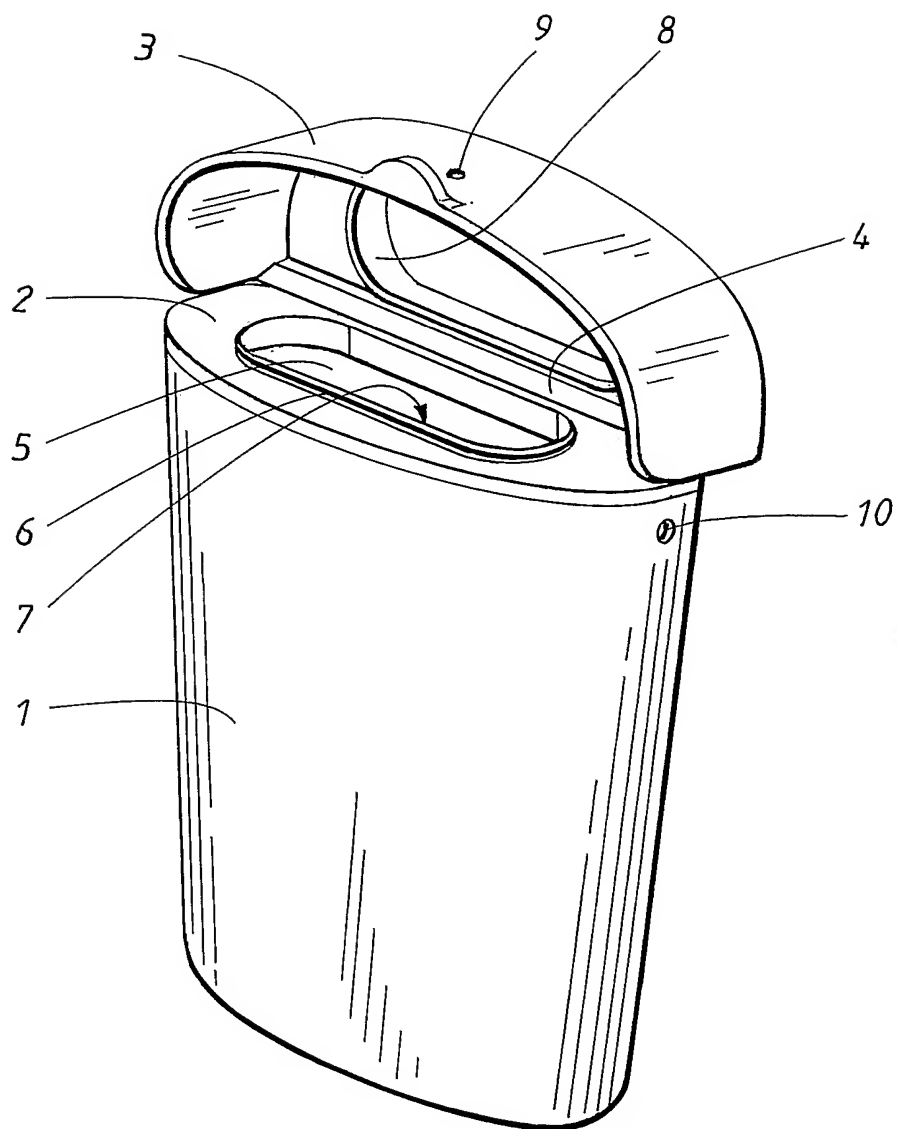
6. Box in accordance with any one of claims 1-5, characterised in that the container part (1) is provided on its rear part with an outwardly-directed projection (12) for attaching a pivotable suspension part (13) for the box.

10

7. Box in accordance with any one of claims 1-6, characterised by a plate-like locking device (15) pivotable around a projection (14) with a catch (16) on one or both sides of the lid (3) in the vicinity of the attachment part of the lid (3) near the closure part (2).

15

1/4

FIG. 1

2/4

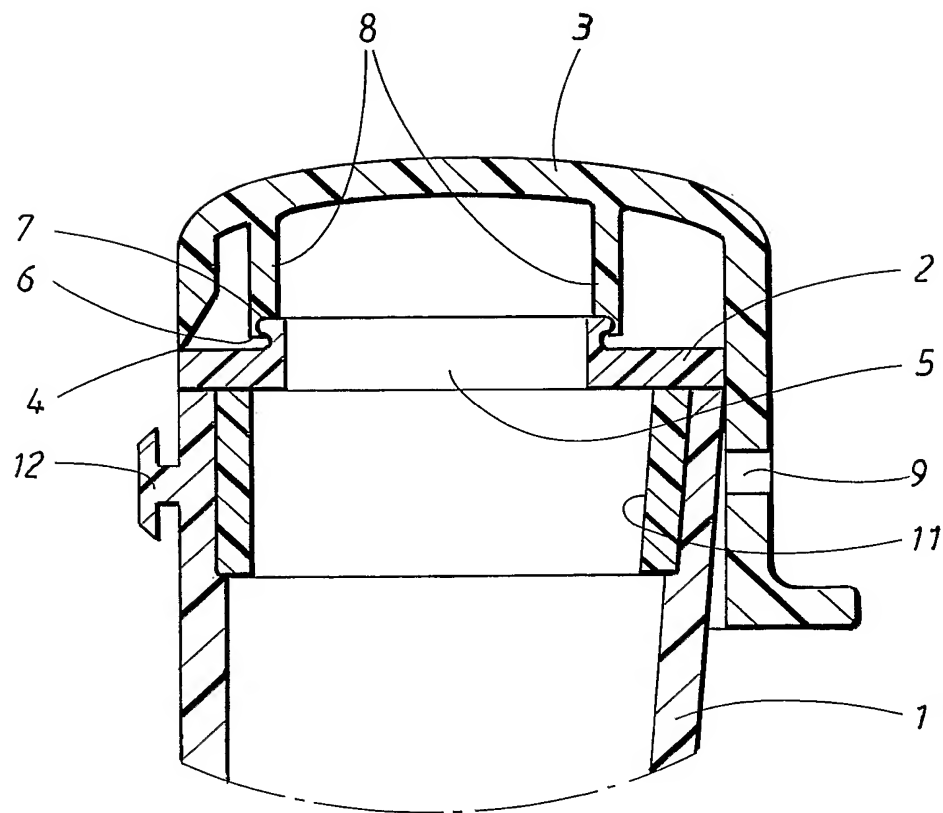


FIG. 2

3/4

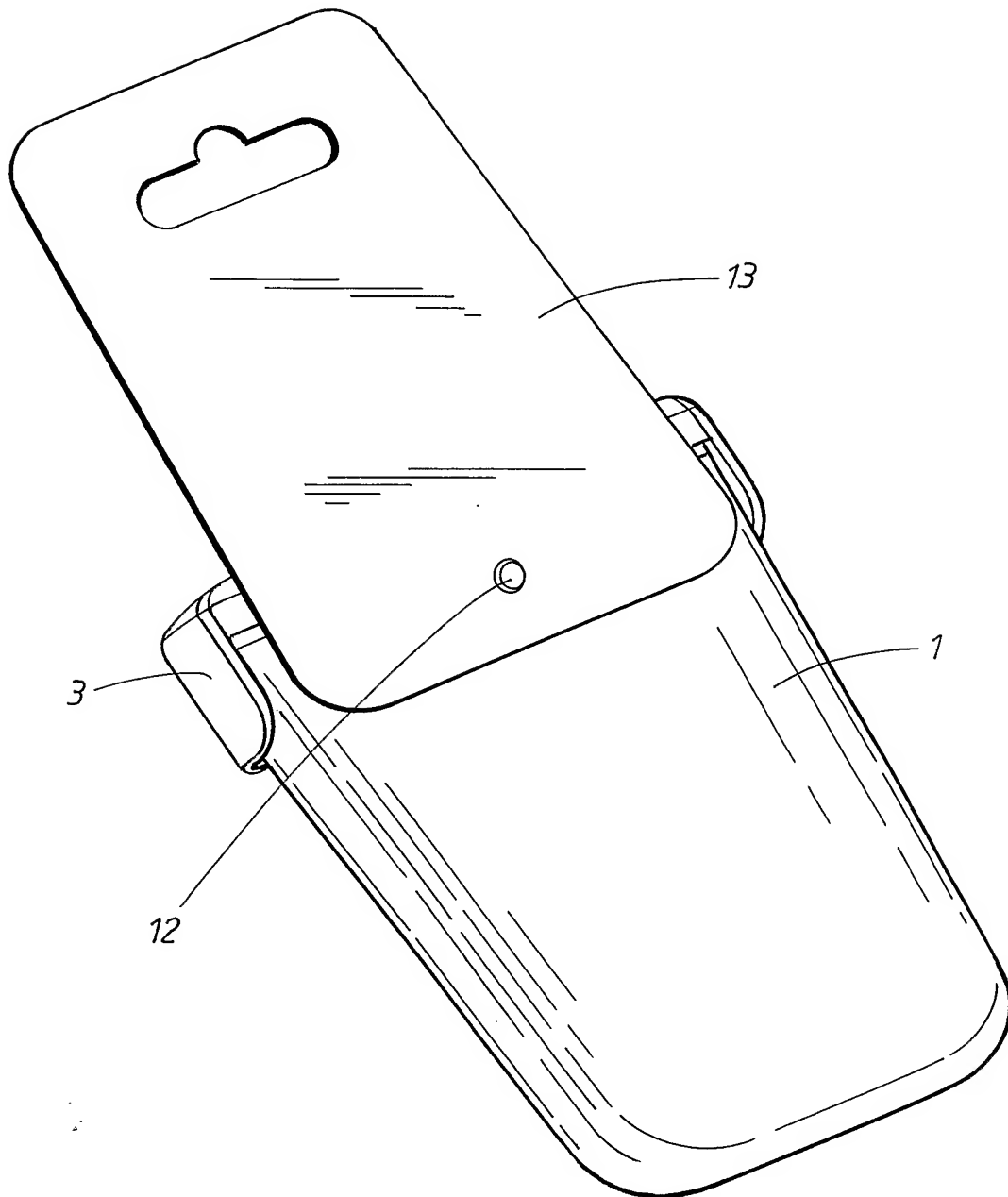


FIG. 3

4/4

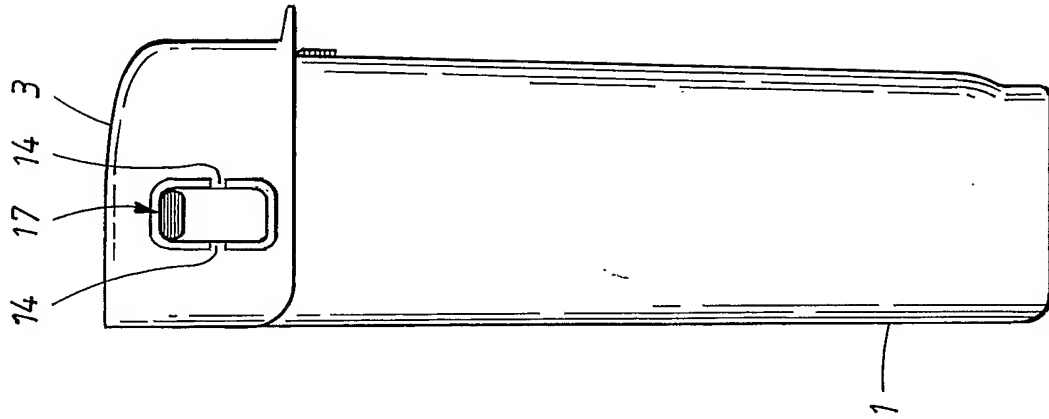


FIG. 5

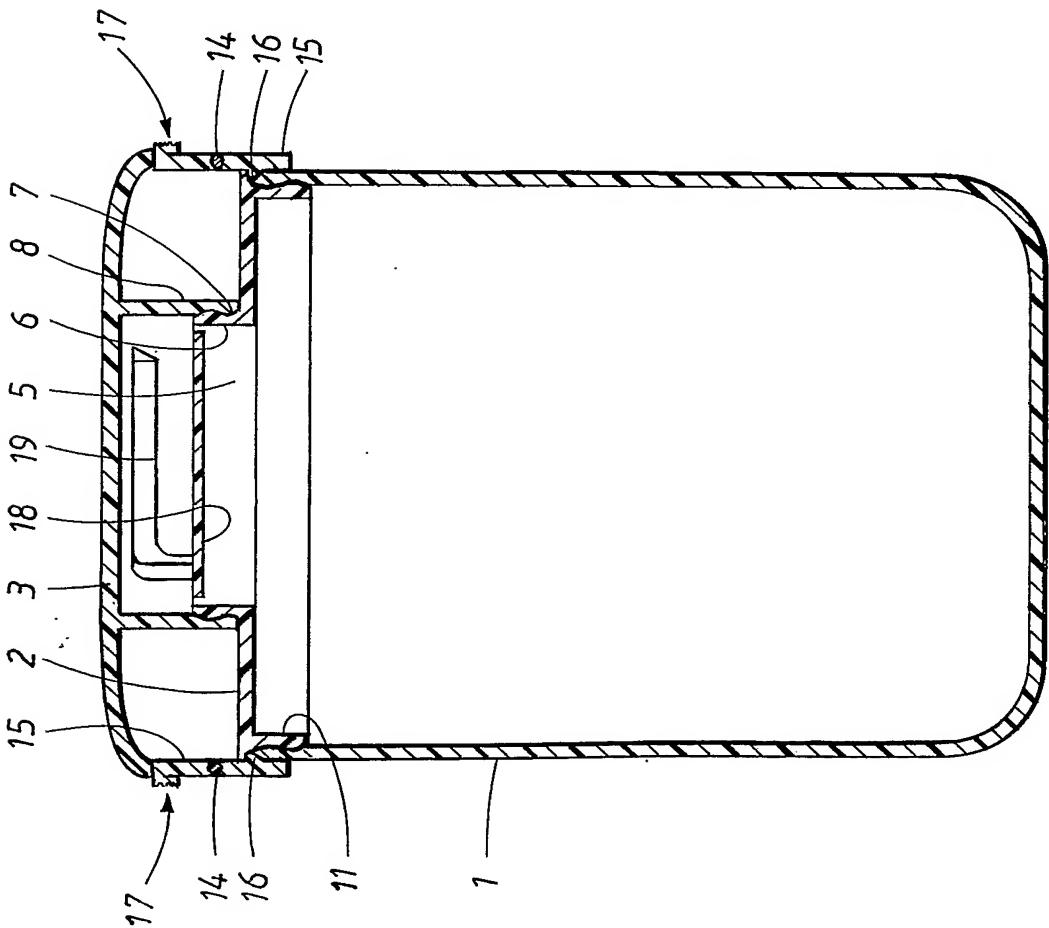


FIG. 4

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 03/00003

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: B65D 43/16

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4538731 A (LORENZO CILLARIO), 3 Sept 1985 (03.09.85), column 2, line 66 - column 3, line 48, figure 4  --	1-7
A	EP 0391459 A2 (NORWICH EATON PHARMACEUTICALS INC.), 10 October 1990 (10.10.90), column 4, line 27 - line 36  --	7
A	US 4386714 A (LOUISE ROBERTO ET AL), 7 June 1983 (07.06.83), column 3, line 27 - line 48  --	1-7
A	SE 438657 B (FERRERO SPA), 29 April 1985 (29.04.85), page 4, the last paragraph  --	1-7

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

25 April 2003

Date of mailing of the international search report

29-04-2003

Name and mailing address of the ISA/

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Anette Hall/Els

Telephone No. +46 8 782 25 00



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 03/00003

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 3627693 A1 (WILLIAM PRYM-WERKE GMBH & CO KG), 25 February 1988 (25.02.88), column 10, line 26 - line 35  -- -----	1-7

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

29/03/03

International application No.

PCT/SE 03/00003

Patent document cited in search report			Publication date	Patent family member(s)		Publication date
US	4538731	A	03/09/85	CA	1248049 A	03/01/89
				IT	8353532 V	30/06/83
-----						
EP	0391459	A2	10/10/90	SE	0391459 T3	
				AT	106009 T	15/06/94
				AU	646634 B	03/03/94
				AU	5250090 A	04/10/90
				CA	2012787 A,C	03/10/90
				DE	69009095 D,T	06/10/94
				DK	391459 T	20/06/94
				EG	18745 A	29/09/94
				ES	2056364 T	01/10/94
				FI	100944 B	00/00/00
				FI	901648 D	00/00/00
				HK	126296 A	19/07/96
				IE	63417 B,L	19/04/95
				IE	901195 L	03/10/90
				IL	93864 D	00/00/00
				JP	2834267 B	09/12/98
				JP	3068364 A	25/03/91
				KR	171196 B	20/03/99
				MX	172156 B	06/12/93
				NO	176946 B,C	20/03/95
				NO	901476 A	04/10/90
				PH	26096 A	06/02/92
				PT	93635 A,B	20/11/90
				US	4889238 A	26/12/89
				ZA	9002432 A	30/01/91
-----						
US	4386714	A	07/06/83	NONE		
-----						
SE	438657	B	29/04/85	AT	368468 B	11/10/82
				AT	705777 A	15/02/82
				AU	511035 B	24/07/80
				AU	2932977 A	12/04/79
				BE	859318 A	01/02/78
				CA	1096815 A	03/03/81
				CH	617401 A	30/05/80
				DE	2744153 A	06/04/78
				DK	147257 B,C	28/05/84
				DK	437477 A	05/04/78
				FR	2366179 A,B	28/04/78
				GB	1573392 A	20/08/80
				IT	1069123 B	25/03/85
				JP	1390268 C	23/07/87
				JP	53089579 A	07/08/78
				JP	61059989 B	18/12/86
				NL	181349 B,C	02/03/87
				NL	7710723 A	06/04/78
				SE	7711043 A	05/04/78
				US	4163496 A	07/08/79
-----						
DE	3627693	A1	25/02/88	EP	0256387 A	24/02/88
-----						